

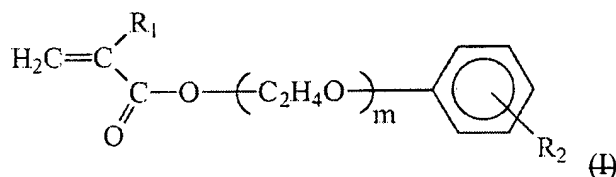
10/526696
 DT01 Rec'd PCT/PT 03 MAR 2005

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A In a photopolymerizable resin composition for sandblast resist, which includes an aqueous alkali-soluble binder polymer, a photopolymerizable oligomer, a photoinitiator, and an additive,

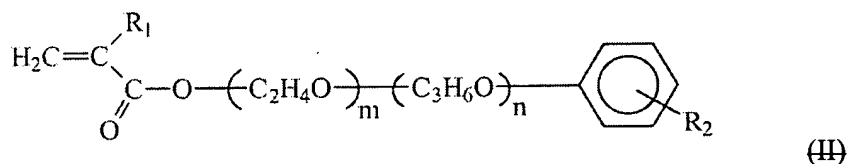
the photopolymerizable oligomer comprising at least one of a polyalkylene glycol mono(~~meta~~ meth)acrylate compound having a terminal alkyl group as selected from the group consisting of compounds represented by the following formulas I to IV, and or a polyalkylene glycol di(~~meta~~ meth)acrylate compound as selected from the group consisting of compounds represented by the following formulas V to VIII,

Formula I

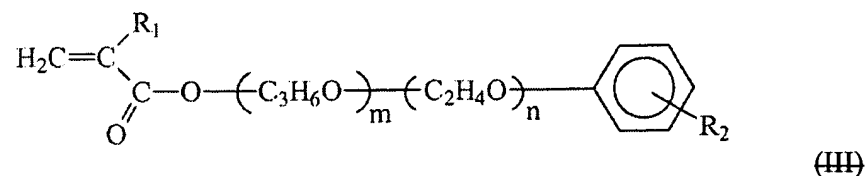


wherein R₁ is hydrogen or methyl; R₂ is an alkyl group having 1 to 30 carbon atoms; and m is an integer from 1 to 30,

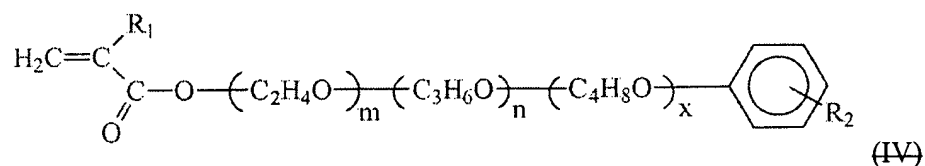
Formula II



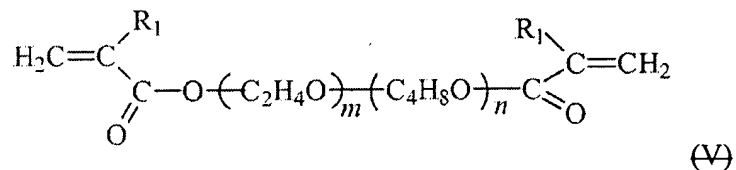
wherein R₁, R₂ and m are as defined in the formula I; and n is an integer from 1 to 30, where n+m is equal to an integer from 2 to 50,

Formula III

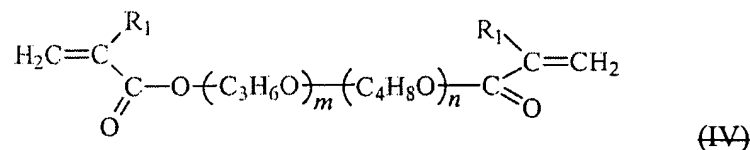
wherein R_1 , R_2 , m and n are as defined in the formula II, where $n+m$ is equal to an integer from 2 to 50,

Formula IV

wherein R_1 , R_2 , m and n are as defined in the formula II; and x is an integer from 1 to 30, where $m+n+x$ is equal to an integer from 6 to 30,

Formula V

wherein R_1 is hydrogen or methyl; m is an integer from 1 to 30; and n is an integer from 1 to 30, where $m+n$ is equal to an integer from 3 to ~~30~~ 40,

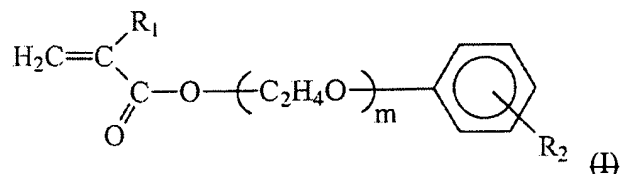
Formula VI

wherein R_1 , m and n are as defined in the formula V, where $m+n$ is equal to an integer from 3 to 40,

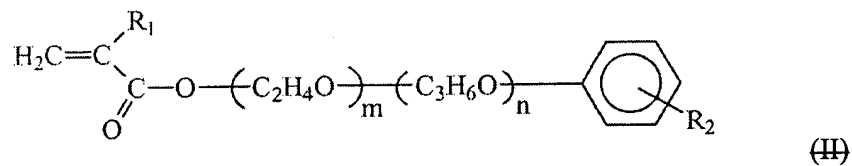
5. (Original) The photopolymerizable resin composition for sandblast resist as claimed in claim 4, wherein the plasticizer is at least one selected from phthalic esters such as dibutyl phthalate, diheptyl phthalate, dioctyl phthalate, or diallyl phthalate; glycol esters such as triethylene glycol diacetate, or tetraethylene glycol diacetate; acid amides such as p-toluene sulfon amide, benzene sulfon amide, or N-n-butyl-benzene sulfon amide; aliphatic dibasic acid esters such as diisopropyl adipate, dioctyl azelate, or dibutyl maleate; phosphates such as triphenyl phosphate; and tributyl citrate, glycerol triacetate, or dioctyl butyl lauryl 4,5-diepoxycyclohexane-1,2-dicarboxylate.

6. (Currently Amended) A In a photopolymerizable resin composition for sandblast resist, which includes an aqueous alkali-soluble polymer compound, a photopolymerizable oligomer, a photoinitiator, and an additive,

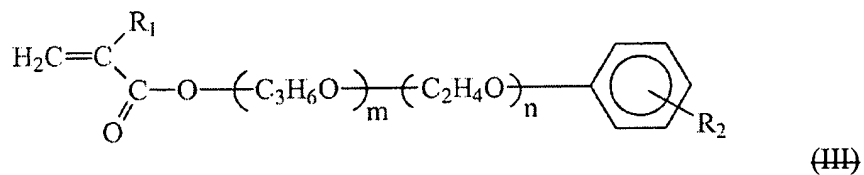
the photopolymerizable oligomer comprising a mixture of at least one of a polyalkylene glycol mono(~~meta~~ meth)acrylate compound having a terminal alkyl group as selected from compounds represented by the following formulas I to IV, a polyalkylene glycol di(~~meta~~ meth)acrylate compound selected from compounds represented by the following formulas V to VIII, and at least one of urethane compounds having a terminal (~~meta~~ meth)acrylate group as represented by the following formula IX and derived from a polyether or polyester compound having a terminal hydroxyl group, a diisocyanate compound and a (~~meta~~ meth)acrylate compound having a hydroxyl group,

Formula I

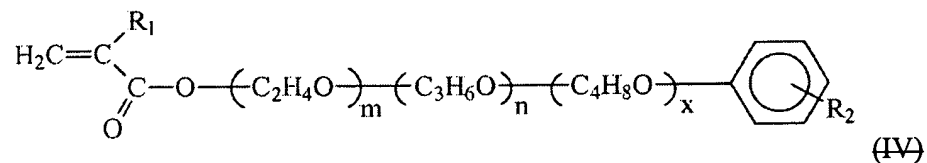
wherein R_1 is hydrogen or methyl; R_2 is an alkyl group having 1 to 30 carbon atoms; and m is an integer from 1 to 30,

Formula II

wherein R_1 , R_2 and m are as defined in the formula I; and n is an integer from 1 to 30, where $n+m$ is equal to an integer from 2 to 50,

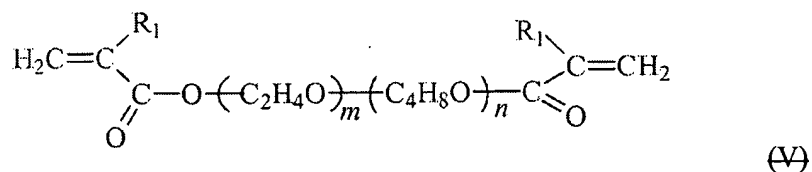
Formula III

wherein R_1 , R_2 , m and n are as defined in the formula II, where $n+m$ is equal to an integer from 2 to 50,

Formula IV

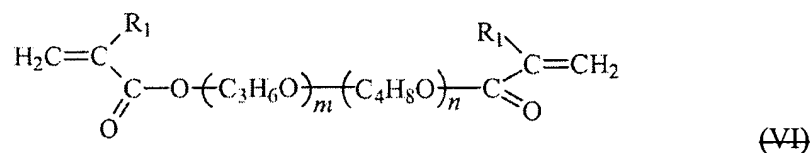
wherein R_1 , R_2 , m and n are as defined in the formula II; and x is an integer from 1 to 30, where $m+n+x$ is equal to an integer from 6 to 30,

Formula V



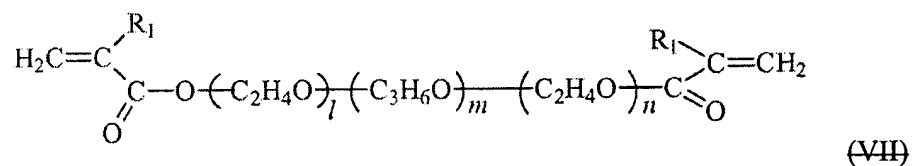
wherein R₁ is hydrogen or methyl; m is an integer from 1 to 30; and n is an integer from 1 to 30, where m+n is equal to an integer from 3 to 40,

Formula VI



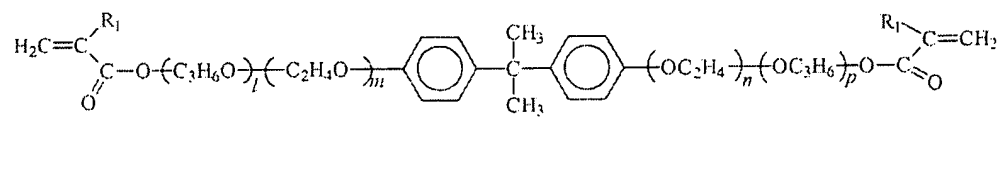
wherein R_1 , m and n are as defined in the formula V, where $n+m$ is equal to an integer from 2 to 50,

Formula VII



wherein R_1 , m and n are as defined in the formula V; and l is an integer from 1 to 30, where $l+m+n$ is equal to an integer from 3 to 50,

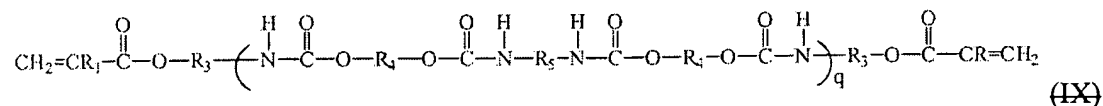
Formula VIII



wherein R_1 , m , n and l are as defined in the formula VII; and p is an integer from 1 to 30,

where $l+m+n+p$ is equal to an integer from 4 to 40,

Formula IX



wherein R_1 and R are the same or different and include hydrogen or methyl; R_3 is alkylene or alkylene ether; R_4 is a divalent residual group derived by removing a urethane compound having a terminal (~~meta~~ meth)acrylate group as derived from a diisocyanate derivative of two isocyanate groups; R_5 is a divalent residual group derived by removing a diol derivative of a hydroxyl group, the diol derivative having a terminal hydroxyl group and a polyether or polyester as the structure of a main chain thereof; and q is an integer from 1 to 10.

7. (Original) The photopolymerizable resin composition for sandblast resist as claimed in claim 6, wherein the weight ratio of the aqueous alkali-soluble polymer compound to the photopolymerizable oligomer is 70:30 to 5:95.

8. (Original) The photopolymerizable resin composition for sandblast resist as claimed in claim 6, wherein the photoinitiator is included in an amount of 2 to 10 wt.% with respect to the total weight of the photopolymerizable resin composition.

9. (Original) The photopolymerizable resin composition for sandblast resist as claimed in claim 6, wherein the photopolymerizable oligomer further comprises 0.01 to 50 wt.% of a plasticizer based on the solid part of the photopolymerizable resin composition.

10. (Original) The photopolymerizable resin composition for sandblast resist as

claimed in claim 9, wherein the plasticizer is at least one selected from phthalic esters such as dibutyl phthalate, diheptyl phthalate, dioctyl phthalate, or diallyl phthalate; glycol esters such as triethylene glycol diacetate, or tetraethylene glycol diacetate; acid amides such as p-toluene sulfon amide, benzene sulfon amide, or N-n-butyl-benzene sulfon amide; aliphatic dibasic acid esters such as diisopropyl adipate, dioctyl azelate, or dibutyl maleate; phosphates such as triphenyl phosphate; and tributyl citrate, glycerol triacetate, or dioctyl butyl lauryl 4,5-diepoxy cyclohexane-1,2-dicarboxylate.

11. (Original) The photopolymerizable resin composition for sandblast resist as claimed in claim 6, wherein the photopolymerizable resin composition comprises, based on 100 parts by weight of the compound represented by the formula IX, 5 to 70 parts by weight of a compound represented by the formulas I to IV, or the formulas V to VIII.